

# ***2002 Annual Drinking Water Quality Report***

Moore County Department of Public Utilities  
Hyland Hills/Niagara Water System - PWSID No. 03-63-103  
June 21, 2003

We're pleased to provide you with this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide to you a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water and to providing you this information.

## **Special Concerns**

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the **Safe Drinking Water Hotline (800-426-4791)**.

## **What affects water quality?**

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife; inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming; pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses; organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems; and radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

## **Is it safe to drink?**

YES! We're pleased to report that our drinking water is safe, and meets federal and state requirements. EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. It's important to remember that the presence of these contaminants does not necessarily pose a health risk.

## **From where does my water come?**

Our water source is ground water. Our two wells draw from the Middendorf Aquifer. Well 1A is located at 262 Hyland Hills Road (between the 1<sup>st</sup> tee and 9<sup>th</sup> green on the golf course). Well 2 is located at 200 Northwood Drive.

## **What if I have any questions or would like to become more involved?**

If you have any questions about this report or concerning your water utility, please contact **Ben Vaughn at (910) 947 - 6315**. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held on the first Monday of each month at 2:00 p.m., and the third Monday of each month at 6:00 p.m. in the Commissioners' Meeting Room, Second floor - Historic Courthouse, Courthouse Circle, Carthage, North Carolina.

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## **Water Quality Data Table of Detected Contaminants**

We routinely monitor for over 121 substances in your drinking water according to Federal and State laws. The following tables lists all the drinking water contaminants that we detected in the last round of sampling for the particular contaminant group. The presence of contaminants does not necessarily indicate that water poses a health risk. Unless otherwise noted, the data presented in these tables is from testing done January 1<sup>st</sup> to December 31<sup>st</sup>, 2001. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentration of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.

### Important Drinking Water Definitions:

*Parts per million (ppm) or Milligrams per liter (mg/l)* - one part per million corresponds to one minute in two years, or a single penny in \$10,000.

*Parts per billion (ppb) or Micrograms per liter* - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

*Picocuries per liter (pCi/L)* - picocuries per liter is a measure of the radioactivity in water.

*Maximum Contaminant Level* - “Maximum Allowed” (MCL) is the highest level of a substance that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

*Maximum Contaminant Level Goal* - The “Goal”(MCLG) is the level of a substance in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

| <b>DETECTED SUBSTANCES TEST RESULTS</b>                               |                  |               |       |      |     |   |
|---|------------------|---------------|-------|------|-----|---|
| Substance   | Violation<br>Y/N | Your<br>Water | Units | MCLG | MCL | Likely Source of<br>Contamination   |
| <b>Radiological Substances – regulated at the user’s tap – 2001</b>   |                  |               |       |      |     |   |
| Alpha emitters  | N                | 3.73          | pCi/l | 0    | 15  | Erosion of natural deposits   |
| Beta/photon emitters  | N                | 1.76          | pCi/l | 0    | 50  | Decay of natural and man-made deposits  |
| <b>Inorganic Substances – regulated at the Well – 2001 &amp; 2002</b> |                  |               |       |      |     |   |
| Barium  | N                | 0.0423        | ppm   | 2    | 2   | Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits  |
| Nitrate   | N                | 2.8           | ppm   | 10   | 10  | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits |

| <b>Total Trihalomethanes Substances – regulated at the user’s tap – 2002</b> |                         |               |          |     |   |
|--|-------------------------|---------------|----------|-----|---|
| Contaminant (units)  | MCL<br>Violation<br>Y/N | Your<br>Water | MCL<br>G | MCL | Likely Source of<br>Contamination         |
| TTHM (ppb)<br>[Total Trihalomethanes]  | N                       | 4             | N/A      | 100 | By-product of drinking water chlorination |

Unregulated contaminant monitoring assists EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. **If you would like more information on unregulated chemicals, please call the EPA Hotline at 1-800-426-4791.**

### **Unregulated Inorganics – regulated at the Well – 2001**

| Contaminant (units) | Your<br>Water | Proposed<br>MCL |
|---------------------|---------------|-----------------|
| Sulfate (ppm)       | 5.12          | 250             |

## Unregulated Pesticides and Synthetic Organic Chemical Substances – regulated at the Well - 2001

| Contaminant (units) | Your Water | MCL |
|---------------------|------------|-----|
| Dieldrin (ppb)      | 0.05       | N/A |

## Unregulated Volatile Organic Chemical Substances – regulated at the Well - 2000

| Contaminant (units)        | Your Water | Range |      |
|----------------------------|------------|-------|------|
|                            |            | Low   | High |
| Bromoform (ppb)            | 0.4        | 0     | 0.8  |
| Chlorodibromomethane (ppb) | 0.3        | 0     | 0.6  |
| Chloroform (ppb)           | 0.7        | 0     | 1.4  |

Secondary contaminants, required by the NC Public Water Supply Section, are substances that affect the taste, odor and/or color of drinking water. These aesthetic contaminants normally do not have any health effects and normally do not affect the safety of your water.

## Water Characteristics – regulated at the Well – 2001

| Contaminant (units) | Your Water | Secondary MCL |
|---------------------|------------|---------------|
| Manganese (ppm)     | 0.01       | 0.05          |
| pH                  | 7.7        | 6.5 to 8.5    |
| Sodium (ppm)        | 30.6       | N/A           |

As you can see by the preceding tables, our system had no violations. We are proud that your drinking water meets all Federal and State requirements. We have learned through our monitoring and testing that some constituents have been detected.

## ***List of All Required Contaminants***

Testing requirements and frequencies are based on type of water used, size of population, purchase system versus non-purchase systems, detection of a contaminant, state-wide sampling waivers, previous sampling history--reduced monitoring permission, etc.

### **Regulated Contaminants--have an allowable limit (Maximum Contaminant Level {MCL})**

#### Microbiological--every month

Total Coliform

Fecal/E. Coli--as needed

Turbidity--certain systems--every 4 hours

#### Radiological--every 4 years

Gross Alpha

Gross Beta--certain systems

Combined Radium--as needed

#### Inorganics--certain systems--every year or every 3 years or every 9 years

|  |           |                                    |          |  |          |
|--|-----------|------------------------------------|----------|--|----------|
| Antimony   | Barium    | Cadmium                            | Cyanide  | Mercury                                  | Thallium |
| Arsenic  | Beryllium | Chromium                           | Fluoride | Selenium                                 |          |
| Nitrate--certain systems--every year                           |           | Nitrite--certain systems--one time |          | Asbestos--certain systems--every 9 years |          |
| Lead and Copper--every 6 months or every year or every 3 years |           |                                    |          |  |          |

Total Trihalomethanes--certain systems--every quarter or every year

|            |           |                      |                      |
|------------|-----------|----------------------|----------------------|
| Chloroform | Bromoform | Chlorodibromomethane | Bromodichloromethane |
|------------|-----------|----------------------|----------------------|

(These 4 contaminants results added together equal the Total Trihalomethanes)

Synthetic Organic Chemicals (SOCs) including pesticides and herbicides--certain systems--every quarter or every year or every 3 years

|   |                   |                 |   |                            |
|---|-------------------|-----------------|---|----------------------------|
| 2,4-D                                       | 2,4,5-TP (Silvex) | Alachlor        | Atrazine                                  | Benzo (a) pyrene (PAH)     |
| Carbofuran                                  | Chlordane         | Dalapon         | Di (2-ethyhexyl)adipate                   | Di(2-ethyhexyl)phthalate   |
| Dinoseb                                     | Endrin            | Heptachlor      | Heptachlor epoxide                        | Hexachlorobenzene          |
| Lindane                                     | Methoxychlor      | Oxamyl (Vydate) | Pentachlorophenol                         | Hexachlorocyclo-pentadiene |
| Simazine                                    | Picloram          | Toxaphene       | Polychlorinated biphenyls(PCBs)           |                            |
| Dibromochloropropane(DBCP)--certain systems |                   |                 | Ethylene dibromide (EDB)--certain systems |                            |
| Acrylamide--certain systems                 |                   |                 | Epichlorohydrin--certain systems          |                            |
| Diquat--State-wide waiver                   |                   |                 | Endothall--State-wide waiver              |                            |
| Glyphosate--State-wide waiver               |                   |                 | Dioxin (2,3,7,8-TCDD)--certain systems    |                            |

Volatile Organic Chemicals(VOCs)--certain systems--every quarter or every year or every 3 years

|                        |                       |                          |                            |                   |
|------------------------|-----------------------|--------------------------|----------------------------|-------------------|
| Benzene                | Carbon tetrachloride  | Chlorobenzene            | o-Dichlorobenzene          | p-Dichlorobenzene |
| 1,2-Dichloroethane     | 1,1-Dichloroethylene  | cis-1,2-Dichloroethylene | trans-1,2-Dichloroethylene | Dichloromethane   |
| 1,2-Dichloropropane    | Ethylbenzene          | Stryene                  | Tetrachloroethylene        | Toluene           |
| Vinyl Chloride         | 1,1,2-Trichloroethane | Trichloroethylene        | Total Xylenes              |                   |
| 1,2,4-Trichlorobenzene | 1,1,1-Trichloroethane |                          |                            |                   |

## **Unregulated Contaminants--no allowable limit (MCL)**

Unregulated Inorganics--certain systems--every year or every 3 years or every 9 years

Sulfate

Unregulated SOCs--certain systems--every quarter or every year or every 3 years

|          |                  |                    |                     |           |
|----------|------------------|--------------------|---------------------|-----------|
| Aldicarb | Aldicarb sulfone | Aldicarb sulfoxide | Aldrin              | Butachlor |
| Carbaryl | Dicamba          | Dieldrin           | 3-Hydroxycarbofuran |           |

Methomyl

|             |            |            |
|-------------|------------|------------|
| Metolachlor | Metribuzin | Propachlor |
|-------------|------------|------------|

Unregulated VOCs--certain systems--every quarter or every year or every 3 years

|                      |                         |                      |                           |
|----------------------|-------------------------|----------------------|---------------------------|
| Chloroform           | Bromoform               | Bromodichloromethane | 1,3,5-Trimethylbenzene    |
| Chlorodibromomethane | Bromobenzene            | Bromochloromethane   | 1,2,3-Trichlorobenzene    |
| Bromomethane         | n-Butylbenzene          | sec-Butylbenzene     | 1,2,3-Trichloropropane    |
| tert-Butylbenzene    | Chloroethane            | Chloromethane        | 1,2,4-Trimethylbenzene    |
| o-Chlorotoluene      | p-Chlorotoluene         | Dibromomethane       | n-Propylbenzene           |
| m-Dichlorobenzene    | Dichlorodifluoromethane | 1,1-Dichloroethane   | 1,1,2,2-Tertachloroethane |
| 1,3-Dichloropropane  | 2,2-Dichloropropane     | 1,1-Dichloropropene  | 1,1,1,2-                  |
|                      |                         | Tertachloroethane    |                           |
| 1,3-Dichloropropene  | Fluorotrichloromethane  | Hexachlorobutadiene  | Isopropylbenzene          |
| p-Isopropyltoluene   | Naphthalene             |                      |                           |

Total Haloacetic Acids--certain systems--every quarter or every year

|                       |                     |                      |                      |                    |
|-----------------------|---------------------|----------------------|----------------------|--------------------|
| Monochloroacetic Acid | Dichloroacetic Acid | Trichloroacetic Acid | Monobromoacetic Acid | Dibromoacetic Acid |
|-----------------------|---------------------|----------------------|----------------------|--------------------|

(These 5 contaminants results added together equal the Total Haloacetic Acids)

**Secondary Contaminants/Water Characteristics**--certain systems--every year or every 3 years or every 9 years

|               |                    |                |                |                 |
|---------------|--------------------|----------------|----------------|-----------------|
| Iron--has MCL | Manganese--has MCL | Nickel--no MCL | Sodium--no MCL | pH--has a range |
|---------------|--------------------|----------------|----------------|-----------------|

We, at Moore County Department of Public Utilities, work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart

of our community, our way of life, and our children's future. Please call our office if you have questions.